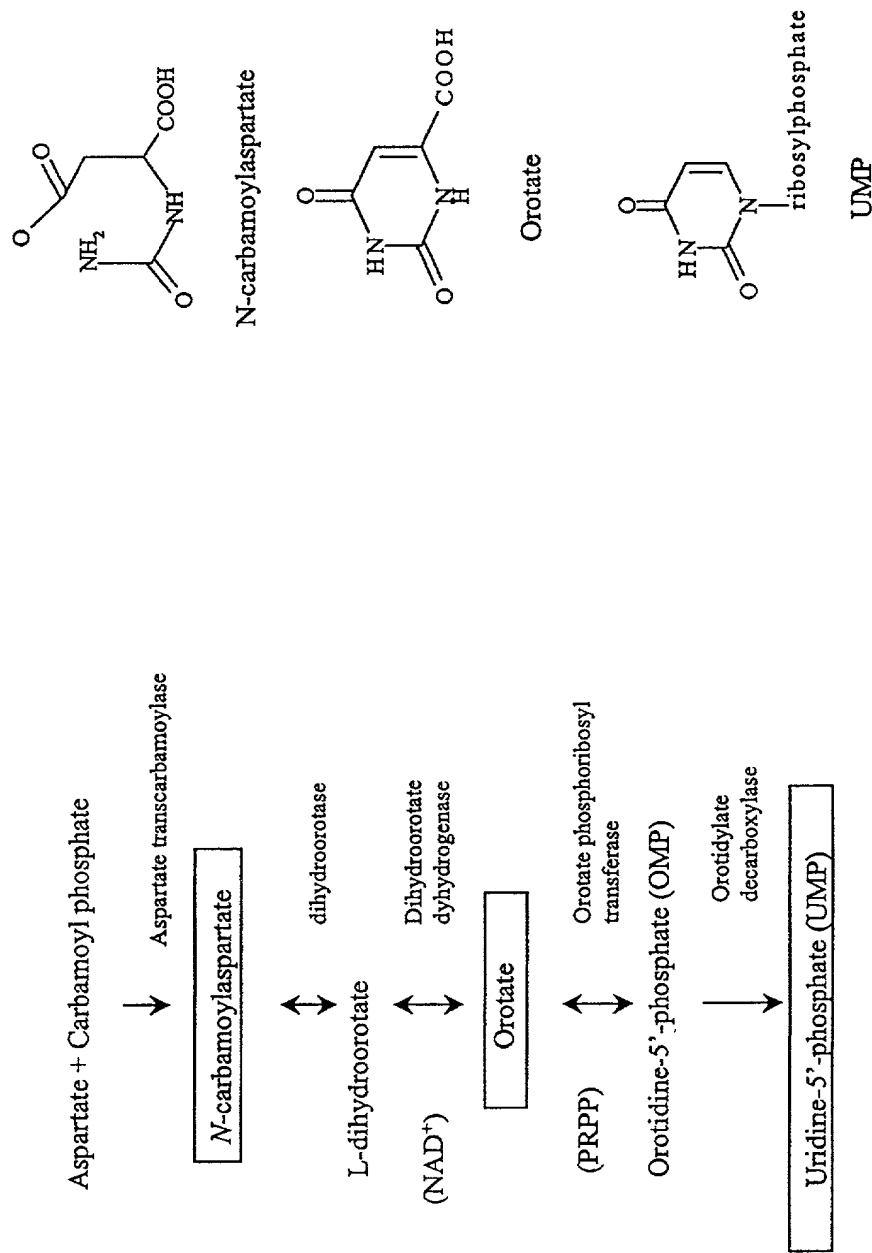


**Figure 1.**



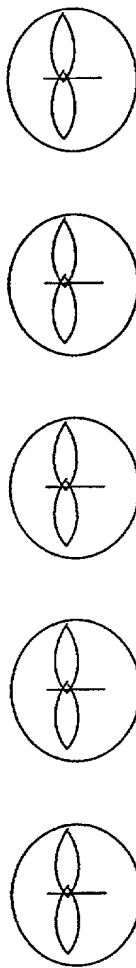




**Figure 4.**

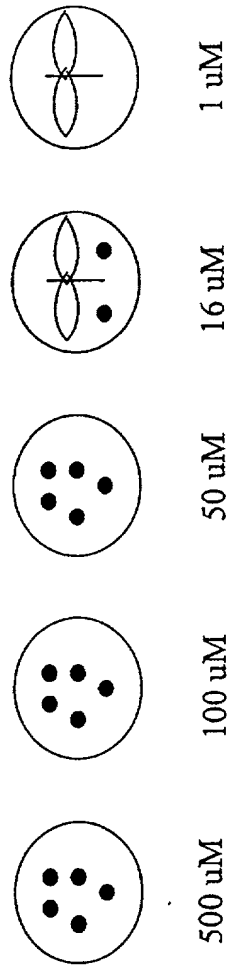
**Control.**

Row  
A



**Compound B.**

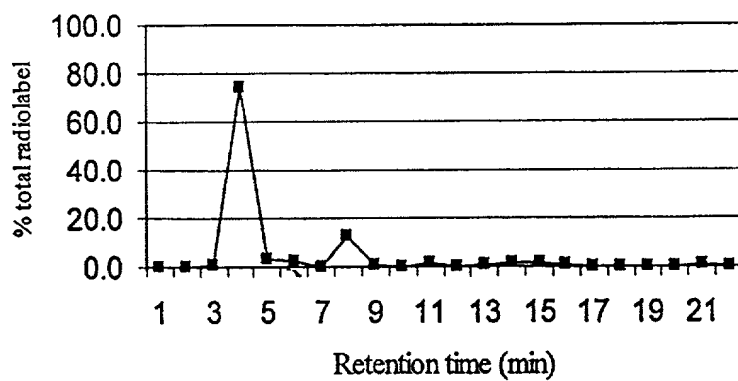
Row  
B



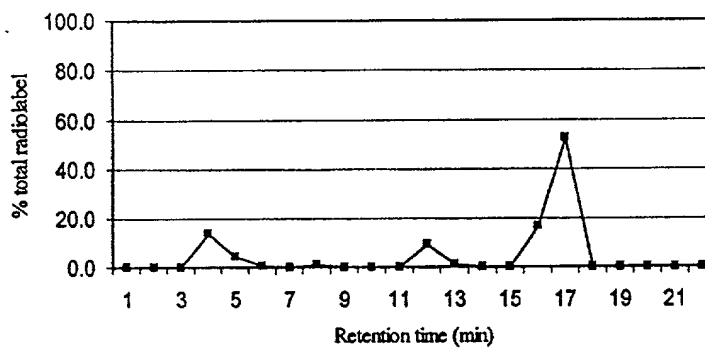


**Figure 6.**

HPLC profile of soybean cells treated with  $^{14}\text{C}$ -carbamyl aspartate alone (control) for 48 hours.

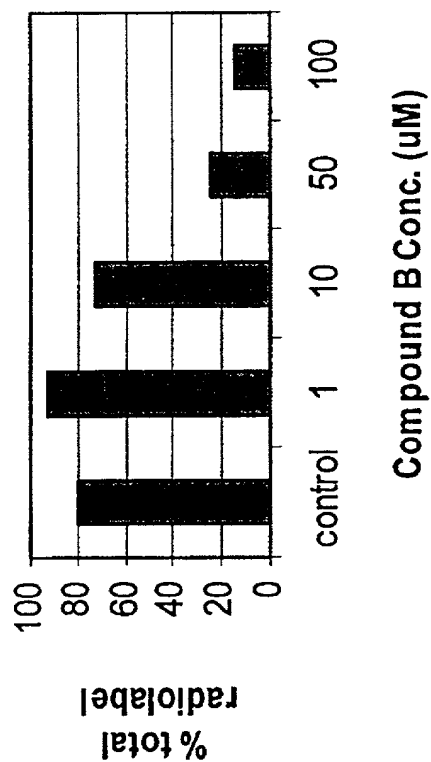


HPLC profile of soybean cells treated with  $^{14}\text{C}$ -carbamyl aspartate plus 100  $\mu\text{M}$  compound B for 48 hours.

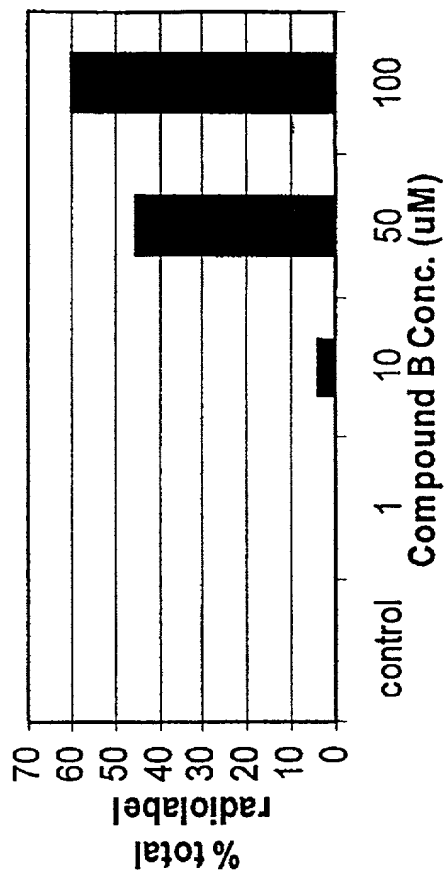


**Figure 7.**

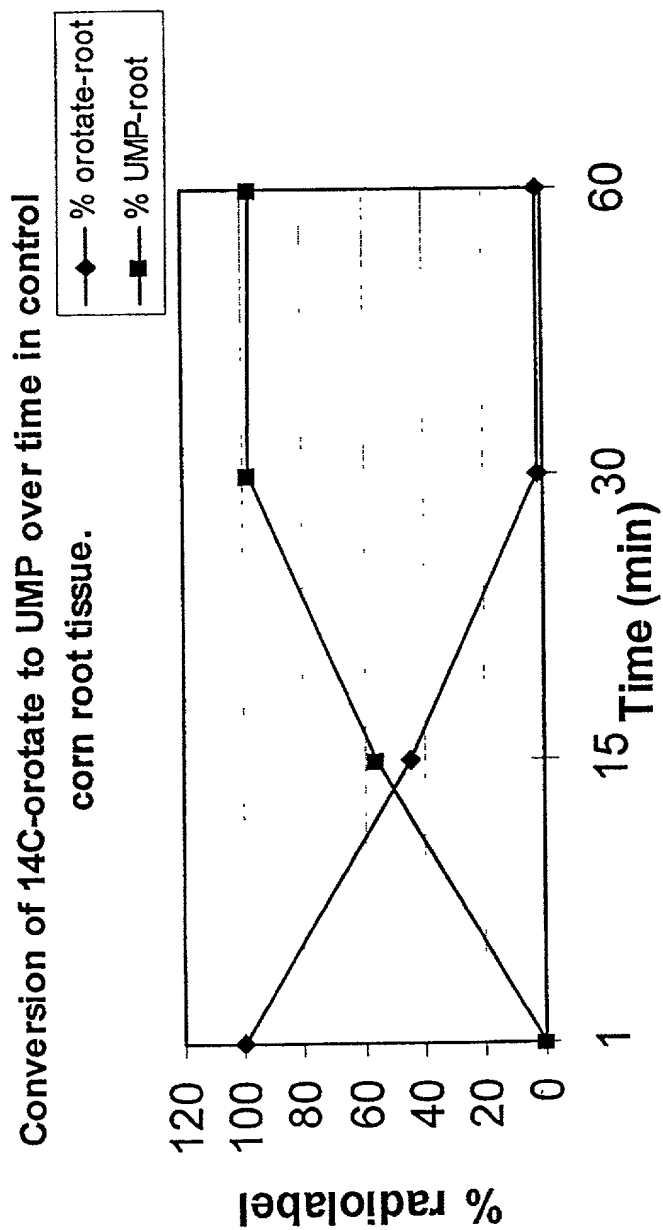
Percent  $^{14}\text{C}$ -carbamoyl aspartate incorporated  
into uracil/uridine.



Percent  $^{14}\text{C}$ -carbamoyl aspartate incorporated  
into orotate



**Figure 8.**





**Figure 9.**

Conversion of <sup>14</sup>C-orotate to UMP 30 MAT in corn shoot tissue  
with increasing concentrations of PRPP

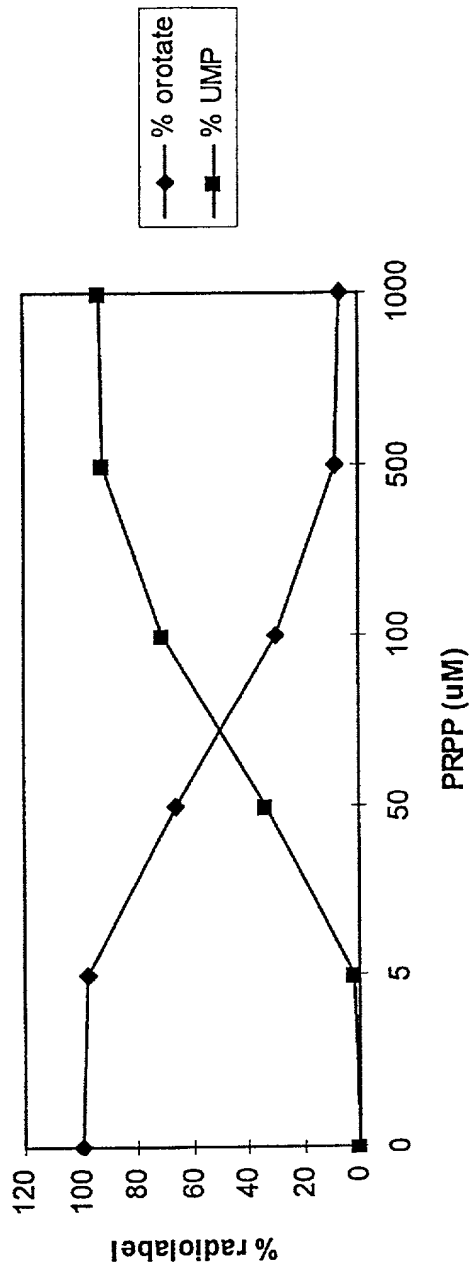
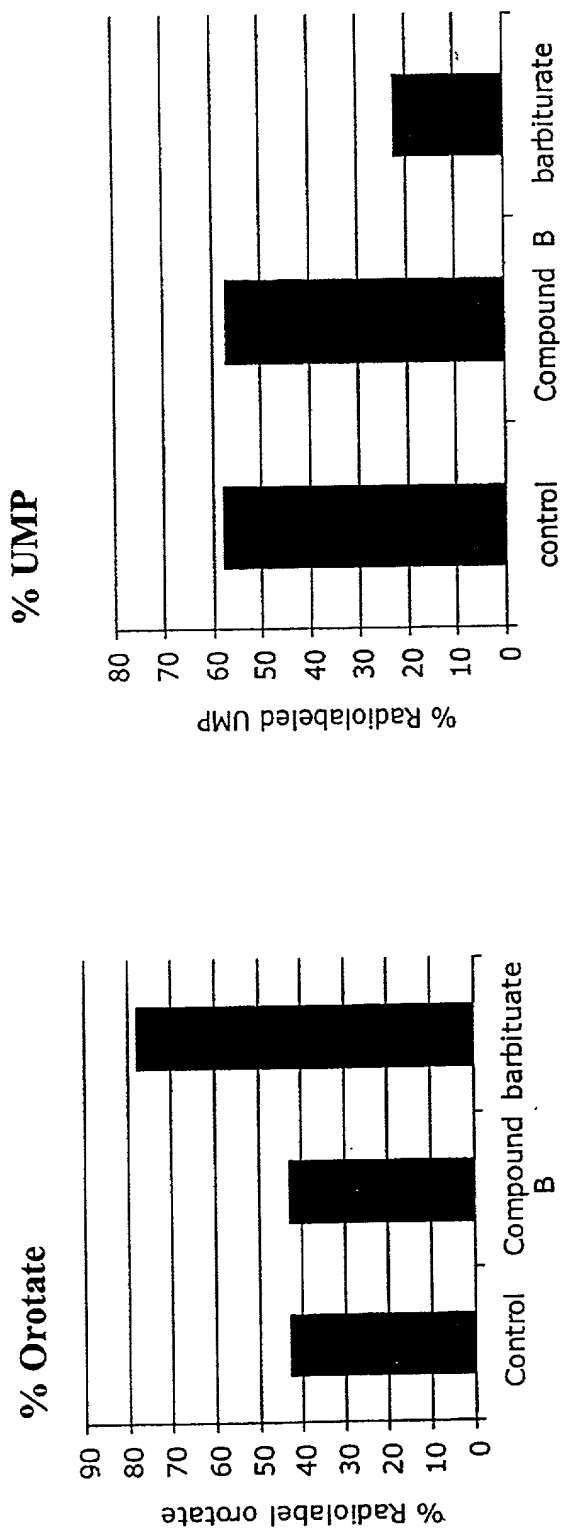
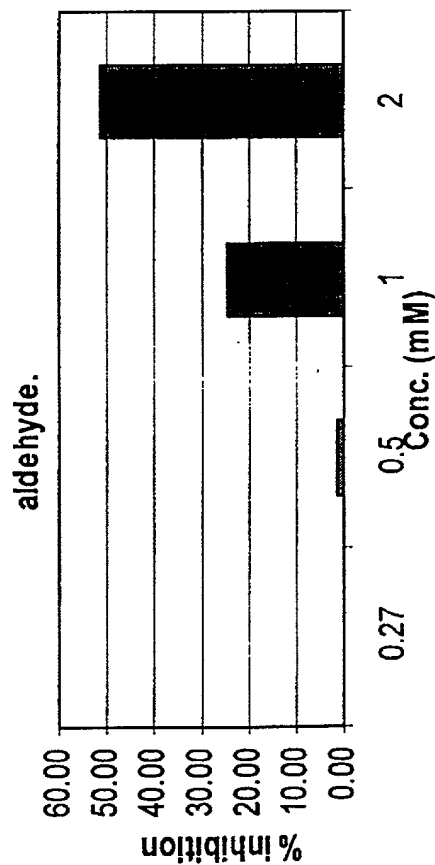


Figure 10.

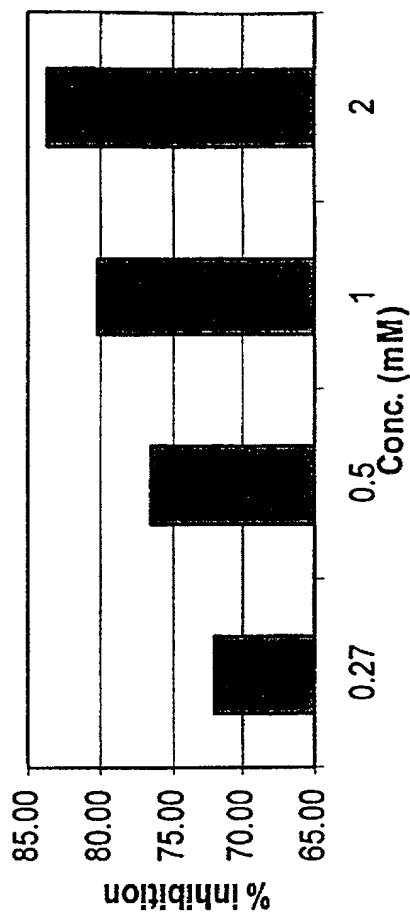


**Figure 11.**

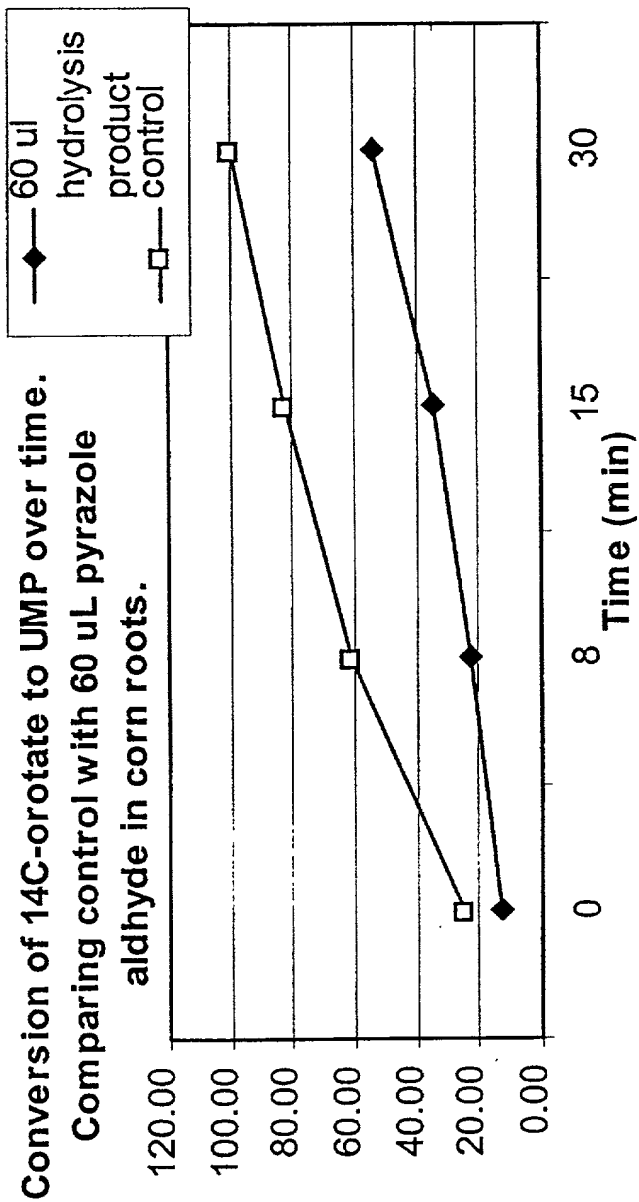
Inhibition of the conversion of 14C-orotate to UMP  
with increasing concentrations of pyrazole  
aldehyde.



Inhibition of the conversion of 14C-orotate to UMP  
with increasing concentrations of barbiturate.

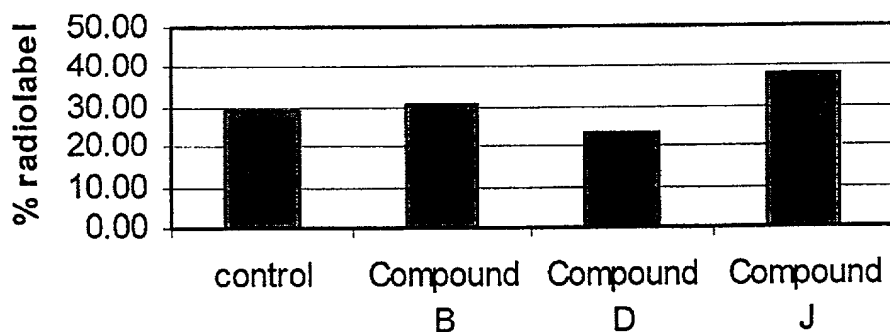


**Figure 12.**

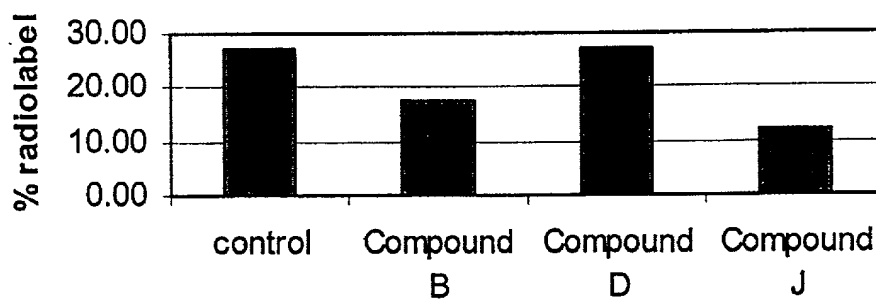


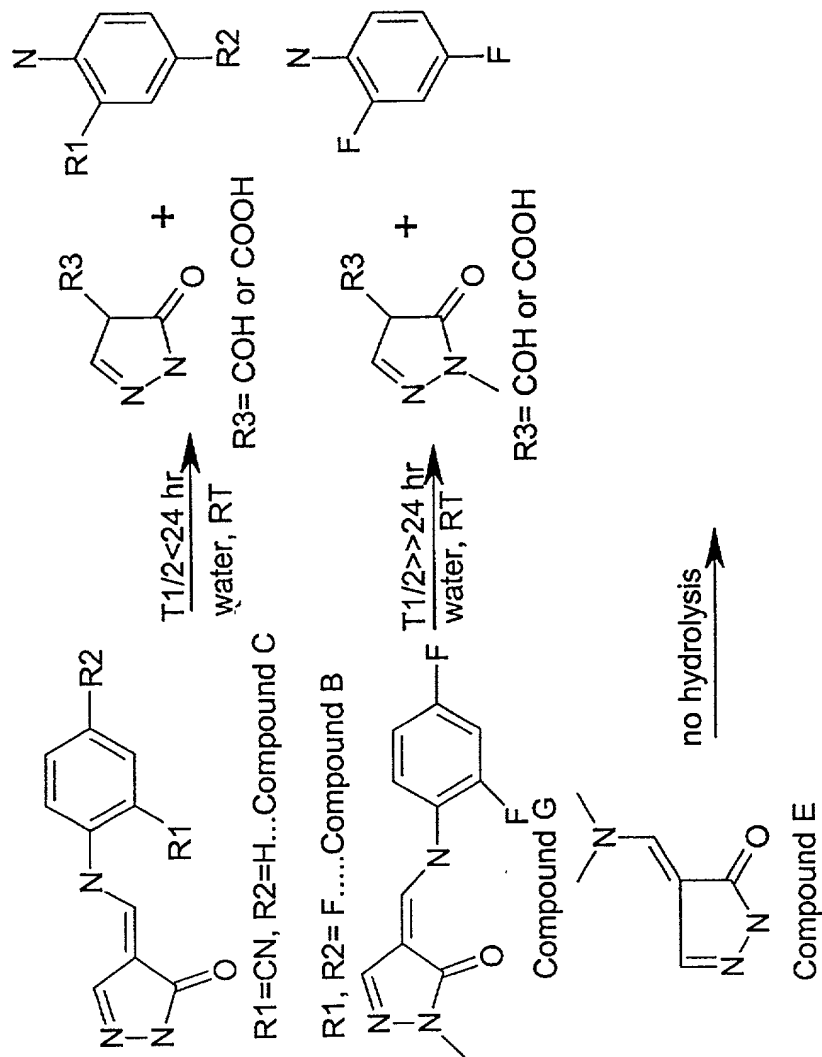
**Figure 13.**

**Comparing amount of  $^{14}\text{C}$ -DHO conversion to orotate 30 MAT in fresh soybean microsomal prep.**

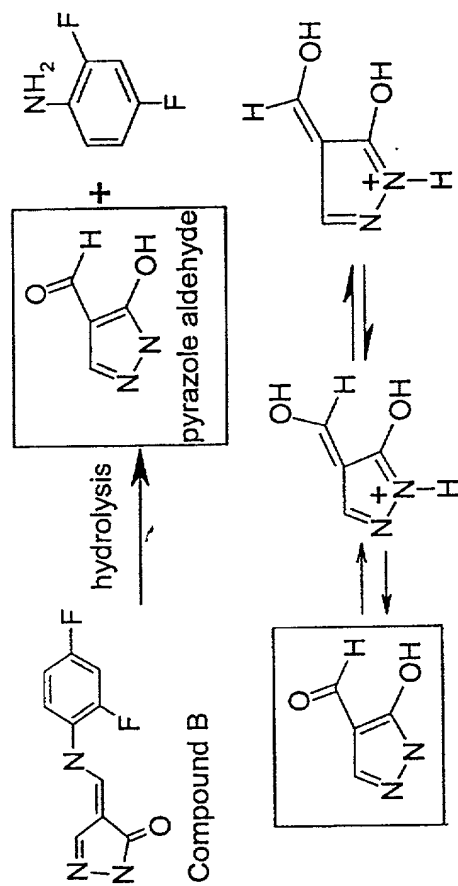


**Comparing amount of  $^{14}\text{C}$ -DHO converted to carbamoyl aspartate between treatments 30 MAT.**

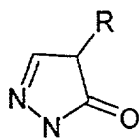


**Figure 14.**

**Figure 15.**



**Figure 16.**



<u>R =</u>	<u>Compound</u>	<u>Active and Reversed</u>
	<div>F</div>	<div>YES</div>
	<div>E</div>	<div>YES</div>
	<div>D</div>	<div>YES</div>
	<div>I</div>	<div>NO</div>





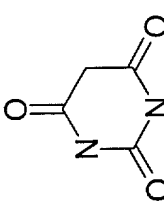
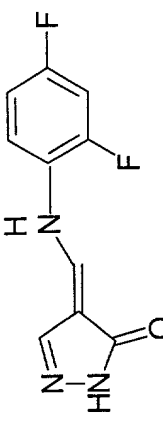
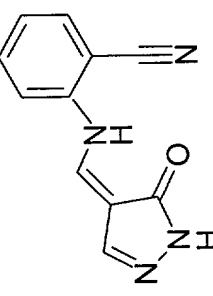
	Scientific Name	Common Name	Bayer Code
Broadleaf weeds	Abutilon theophrasti	velvetleaf	ABUTH
	Ambrosia artemisiifolia	common ragweed	AMBEL
	Galium aparine	catchweed bedstraw	GALAP
	Sesbania exaltata	hemp sesbania	SEBEX
	Solanum nigrum	black nightshade	SOLNI
Grass weeds	Avena fatua	wild oats	AVEFA
	Bromus tectorum	downy brome	BROTE
	Digitaria sanguinalis	large crabgrass	DIGSA
	Echinochloa crus-galli	barnyardgrass	ECHCG
	Setaria viridis	green foxtail	SETVI
	Sorghum halapense (seedling)	johnsongrass	SORHAS
Crops	Glycine max	soybean, Williams var.	GLXMAW
	Oryza sativa	rice, Tebonnet var.	ORYSAT
	Triticum aestivum	winter wheat, Riband var.	TRZAWR
	Zea mays	field corn	ZEAMX

Table 2.

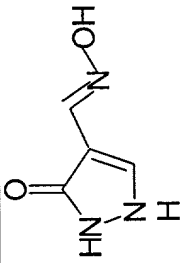
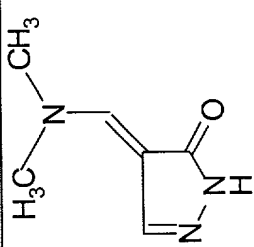
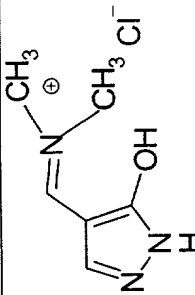
Concentration of the herbicide ( $\mu\text{M}$ )

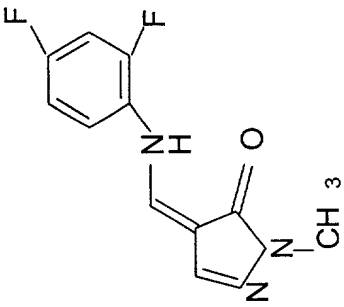
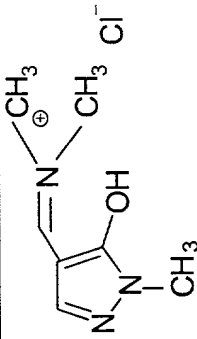
Treatment	500	250	125	63	31	16	7.8	3.9
Compound B	8	7C	6C	6C	5C	5C	5C	5C
Compound B + 100 $\mu\text{M}$ Uracil	5C	3C	3C	0	0	0	0	0
Compound B + 100 $\mu\text{M}$ Uridine	6C	5C	3C	1	0	0	0	0
Compound B + 100 $\mu\text{M}$ UMP	6C	5C	3C	1	0	0	0	0
Compound B + 100 $\mu\text{M}$ AMP	8	7C	6C	5C	5C	5C	5C	5C
Compound B + 100 $\mu\text{M}$ Adenine	8	7C	6C	5C	5C	5C	5C	5C
Compound B + 100 $\mu\text{M}$ Cytosine	8	7C	6C	5C	5C	5C	5C	5C
Compound B + 100 $\mu\text{M}$ Guanine	8	7C	6C	6C	5C	5C	5C	5C
Compound B + 100 $\mu\text{M}$ Thymine	8	7C	6C	6C	5C	5C	5C	5C
Compound B + 100 $\mu\text{M}$ Xanthine	8	7C	6C	6C	5C	5C	5C	5C

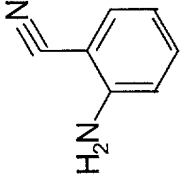
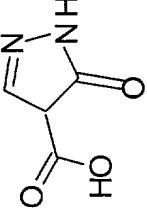
Table 3  
Percent Inhibition

Compound	structure	% inhibition			
		GH SETVI injury (1 kg/ha post)	Miniscreen injury (re- versal)	Hydroponic xylem in- jury.	uracil re- versal
control		0	0	0	
barbiturate		NT	0	NT	
B		70	60 (0)	70	YES
C		60	80 (50)	75	PARTIAL

Regression coefficients		Regression statistics	
Model	Adjusted R-squared	F	df
1	0.000	0.000	1, 10
2	0.000	0.000	2, 9
3	0.000	0.000	3, 8
4	0.000	0.000	4, 7
5	0.000	0.000	5, 6
6	0.000	0.000	6, 5
7	0.000	0.000	7, 4
8	0.000	0.000	8, 3
9	0.000	0.000	9, 2
10	0.000	0.000	10, 1
11	0.000	0.000	11, 0
12	0.000	0.000	12, 0
13	0.000	0.000	13, 0
14	0.000	0.000	14, 0
15	0.000	0.000	15, 0
16	0.000	0.000	16, 0
17	0.000	0.000	17, 0
18	0.000	0.000	18, 0
19	0.000	0.000	19, 0
20	0.000	0.000	20, 0
21	0.000	0.000	21, 0
22	0.000	0.000	22, 0
23	0.000	0.000	23, 0
24	0.000	0.000	24, 0
25	0.000	0.000	25, 0
26	0.000	0.000	26, 0
27	0.000	0.000	27, 0
28	0.000	0.000	28, 0
29	0.000	0.000	29, 0
30	0.000	0.000	30, 0
31	0.000	0.000	31, 0
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42	0.000	0.000	42, 0
43	0.000	0.000	43, 0
44	0.000	0.000	44, 0
45	0.000	0.000	45, 0
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69	0.000	0.000	69, 0
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72	0.000	0.000	72, 0
73	0.000	0.000	73, 0
74	0.000	0.000	74, 0
75	0.000	0.000	75, 0
76	0.000	0.000	76, 0
77	0.000	0.000	77, 0
78	0.000	0.000	78, 0
79	0.000	0.000	79, 0
80	0.000	0.000	80, 0
81	0.000	0.000	81, 0
82	0.000	0.000	82, 0
83	0.000	0.000	83, 0
84	0.000	0.000	84, 0

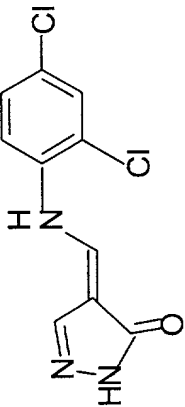
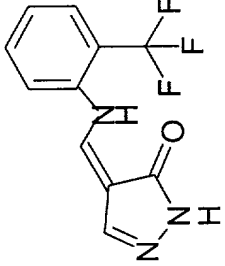
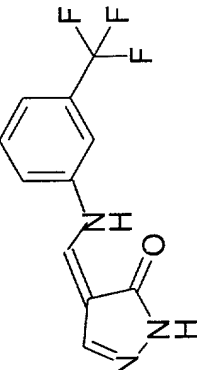
Compound	structure	GH SETVI injury (1 kg/ha post)	Miniscreen injury (re- versal)	Hydroponic xylem in- jury.	uracil re- versal
D		50	40 (0)	60	YES
E		50	65 (0)	25	YES
F		50	55 (0)	65	YES

Compound	structure	% inhibition			
		GH SETVI injury (1 kg/ha post)	Miniscreen injury (re- versal)	Hydroponic xylem in- jury.	uracil re- versal
G		0	0	20	NO
H		0	0	0	NO

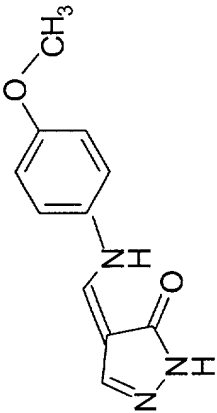
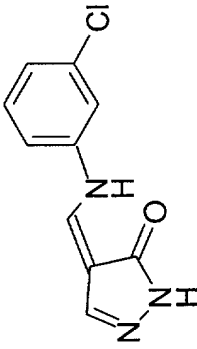
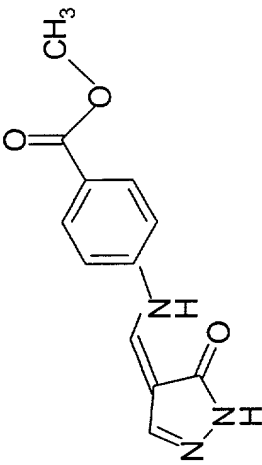
Compound	structure	% inhibition			
		GH SETVI injury (1 kg/ha post)	Miniscreen injury (re- versal)	Hydroponic xylem in- jury.	uracil re- versal
I		0	0	0	NO
J		0	0	0	NO

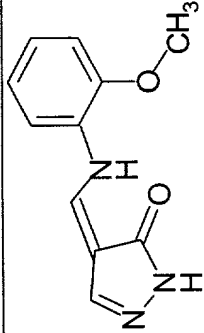
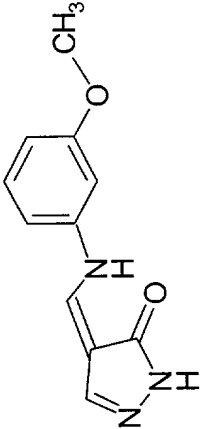
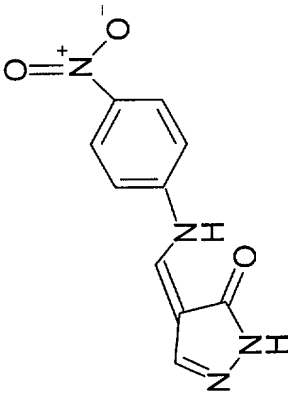
Notes: NA denotes that compound was not tested.  
 Miniscreen data in parenthesis is the extent of uracil reversal at 50 uM tested compound.

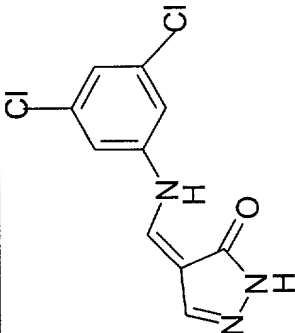
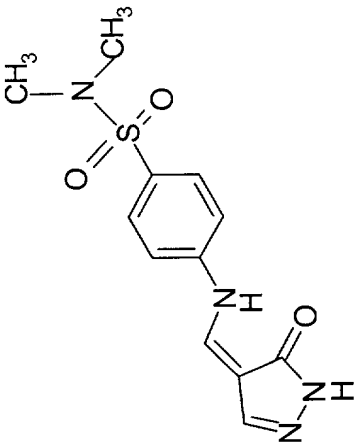
Table 4  
Percent Inhibition

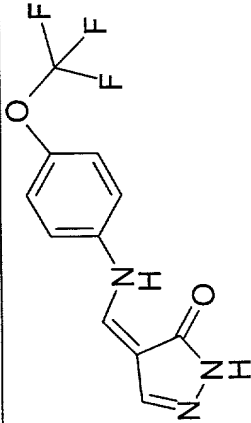
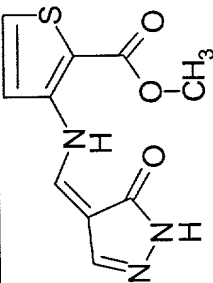
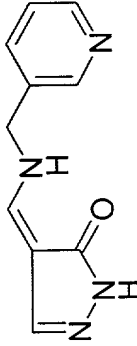
Compound	structure	% inhibition GH activity on SETVI	% inhibition @50 $\mu$ M Miniscreen activity	uracil re- versal
A		70	70	YES
K		60	80	YES
L		60	80	YES

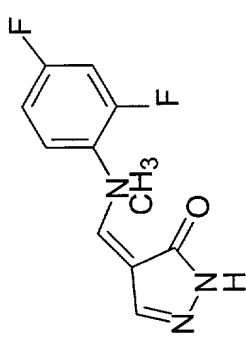
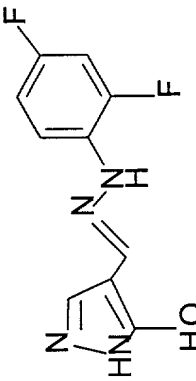
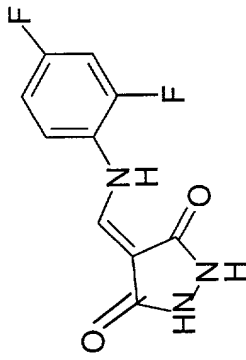


Compound	structure	% inhibition GH activity on SETVI	% inhibition @50 $\mu$ M Miniscreen activity	uracil re- versal
M		50	70	YES
N		60	80	YES
O		10	70	YES

Compound	structure	% inhibition GH activity on SETVI	% inhibition @50 $\mu$ M Miniscreen activity	uracil re- versal
P		30	80	YES
Q		40	80	YES
R		40	70	YES

Compound	structure	% inhibition GH activity on SETVI	% inhibition @50 $\mu$ M Miniscreen activity	uracil re- versal
S		50	80	YES
T		20	70	YES

Compound	structure	% inhibition GH activity on SETVI	% inhibition @50 $\mu$ M Miniscreen activity	uracil re- versal
U		0	80	YES
V		50	60	YES
W		40	60	YES

Compound	structure	% inhibition GH activity on SETVI	% inhibition @50 $\mu$ M Miniscreen activity	uracil re- versal
X		70	50	YES
Y		50	70	YES
Z		0	30	YES